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ABSTRACT

Four studies investigated when children became able to detect that the words of a story could support multiple interpretations. Each subject saw two eight-sentence stories of each of four types (no-cause, unbiased, biased-proximal, and biased-distal), designed to support multiple interpretations. After reading or hearing each story, the children were asked a series of questions. The studies examined recognition of alternative interpretations and children's developing appreciation of ambiguity and false belief in story texts and their developing appreciation of others' perspectives. Subjects in the first study were approximately 60 second-, third-, and fourth-grade students, while 48 second- and fourth-grade students were subjects in the other 3 studies. Results indicated that: (1) younger children tended to have difficulty reinterpreting a text after an initial interpretation; (2) although they realize the text is ambiguous, they are less likely than older children to explicitly identify alternative interpretations after making an initial interpretation; (3) they are also less likely to appreciate the causes of another's differing interpretation; and (4) children in both grades frequently had problems understanding that another might hold a false belief or inaccurate interpretation about the story events. Findings suggest that young writers may overlook the possibility that a reader may have a different interpretation, or a false interpretation, even though they possess the ability to recognize multiple interpretations. Therefore, children may need explicit instruction in recognizing alternative interpretations in their writing. (A sample story and four figures of data are included.) (RS)

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Finding new meanings: The development of text reinterpretation skill

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CS 010993

Finding new meanings: The development of text reinterpretation skill

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Objectives. To write and revise effectively, the young author must consider the reader's information requirements and anticipate how the reader might interpret the text. The goal of these studies was to learn when children would be able to detect that the words of a story could support multiple interpretations. This ability was assessed in four different contexts: interpretation, ambiguity, false belief, and perspective-taking. We were also interested in how children's reinterpretation skill would be influenced by text structure, specifically, the number and location of clues to one of several potential interpretations that were embedded in the narrative. Four experiments were conducted to investigate these questions.

Theoretical framework. The experiments are part of a research program investigating the role of metacognitive knowledge about communication and comprehension in the development of writing and revision skill. Previous studies have shown that the ability to distinguish literal and intended meaning in text is essential for effective revision. The present experiments extend this work to investigate children's ability to anticipate that a text might be interpreted several ways depending on the particular inferences made by the reader.

Materials. The stories were designed to support multiple interpretations. Each story was eight sentences long and described a "target event". For example, one story described a child at the beach making a sand castle which was then smashed (target event). The target events involved physical outcomes because physical causality inferences have been shown in previous work to be equally easy for second and fourth graders to make.

Each story was prepared in four versions (an example is shown in Table 1). In the no-cause version the outcome (e.g., smashed sand castle) was mentioned in the text with no potential cause included. In the unbiased version, two sentences that could be related to the target event were included, although neither was explicitly mentioned as the cause (e.g., the waves were very big that day, brother was playing nearby). The biased-proximal version included both potential causes plus a biasing clue located one sentence away from the associated cause (e.g., brother nearby, big waves, smashed castle, wet sand). In the biased-distal version the biasing clue was positioned several sentences away from the related potential cause (e.g., brother nearby, big waves, smashed castle, footprints in the sand.) The order in which potential causes were mentioned and the location of the biasing clue sentences (distal-proximal) in the text were systematically varied across children. Each child saw two stories of each of the four types, presented in one of two randomized orders.

Experiment 1: Recognition of alternative interpretations

Subjects. Second, third and fourth graders were included in the experiment, $n = 21-24$ per grade.

Method. Children saw eight stories; after each was presented, the child was asked a) what had happened to cause the target event (initial interpretation), b) if something else could have happened (alternative interpretation) and c) if both things could have happened in the story (integration of interpretations).

Results. As indicated in Figure 1, children in all grades could easily infer a cause of the target event. However, third and fourth graders were significantly more likely than second graders to produce an alternative interpretation, and to integrate the two causes into a more complex story (e.g., brother runs over sandcastle to escape large oncoming wave that then washes over the sand). There was no effect of text structure on children's ability to notice alternative interpretations, possibly due to the relative ease of the inferences required to notice the alternative cause.

Experiment 2: Children's developing appreciation of ambiguity in story texts

Subjects. Second and fourth graders participated, $n = 16$ per grade.

Procedure. Each of the eight stories was read to the child with the text visible; the child was then asked a) what happened to cause the target event (initial interpretation), b) if something else could have caused it (alternative interpretation), and c) if the words of the story specified the cause of the target event (words clear?).

Results. As may be seen in Figure 2, children in both grades were generally successful at saying, "No, the words didn't tell exactly what happened" (implicit ambiguity detection). However, second graders were significantly less likely than fourth graders to identify explicitly an alternative cause for the target event. Once they have settled on an interpretation, they are less likely than older children to re-see the text as ambiguous, or supporting more than one interpretation. Finally, there was an effect of item type: Children in both grades were more likely to judge the biased items as clear than the neutral items.

Experiment 3: Children's developing appreciation of false belief in story texts

Subjects. Second and fourth graders participated, $n = 16$ per grade.

Procedure. Each story was read to the child with the text visible. The child was asked a) what happened to cause the target event (initial interpretation). The child was then told that his or her initial interpretation was correct, but that the story protagonist (i.e., Cindy, in the sandcastle story) thought that the alternative had caused the target event. The child was then asked b) to explain why the story

protagonist had arrived at the alternative interpretation (explain other's false belief) and c) if the words of the story specified the cause of the target event (words clear?).

Results. As shown in Figure 3, fourth graders were significantly better than second graders at explaining why the protagonist would hold a false belief. Replicating Experiment 2, children generally realized that the words did not tell exactly what happened, particularly for the neutral items.

Experiment 4: Children's developing appreciation of others' perspectives

Subjects. The experiment included second and fourth graders, $n = 16$ per grade.

Procedure. Each story was read to the child with the text visible. The child was then asked a) what happened to cause the target event (initial interpretation). The child was then told that his or her initial interpretation was incorrect, that "really" the alternative had occurred. The child was then asked b) to predict what the story protagonist would think (other's perspective) and c) if the words of the story specified the cause of the target event (words clear?).

Results. Although children in both grades most often predicted that the protagonist would have the same false perspective that they had originally held (see Figure 4), their performance was by no means at ceiling; they frequently predicted that the protagonist would know what had really happened. This suggests that children may be relatively insensitive to the possibility that another may hold a false perspective.

Conclusions

Although children in elementary school are relatively proficient at recognizing multiple interpretations in text, several factors influence this ability. Younger children especially tend to have difficulty reinterpreting a text after an initial interpretation has been made (Experiment 1). Similarly, although they realize that the text is ambiguous, they are less likely than older children to explicitly identify alternative interpretations after making an initial interpretation (Experiment 2). They are also less likely to appreciate the causes of another's differing interpretation (Experiment 3). Finally, children in both grades frequently have problems understanding that another might hold a false belief or inaccurate interpretation about the story events. The results suggest that young writers may overlook the possibility that a reader may have a different interpretation, or a false interpretation, even though they possess the ability to recognize multiple interpretations. Therefore, children may need explicit instruction in recognizing alternative interpretations in their writing.

Table 1: Example of story used in Experiments 1-4

neutral version:

Cindy was at the beach.
It was a sunny day.
She made a sand castle.
The sand castle got smashed. (target event)
Her father helped her make another one.

unbiased version:

Cindy was at the beach.
She made a sand castle.
The waves were big that day. (clue 1)
Her brother was playing nearby. (clue 2)
Her sand castle got smashed. (target event)

proximal-bias version:

Cindy was making a sand castle at the beach.
The waves were big that day. (clue 1)
Her brother was playing nearby. (clue 2)
Her sand castle got smashed. (target)
There were footprints on the sand. (bias)

distal-bias version:

Cindy was making a sand castle at the beach.
Her brother was playing nearby. (clue 1)
The waves were big that day. (clue 2)
Her sand castle got smashed. (target)
There were footprints on the sand. (bias)

Figure 1

Experiment 1: Recognition of alternative interpretations

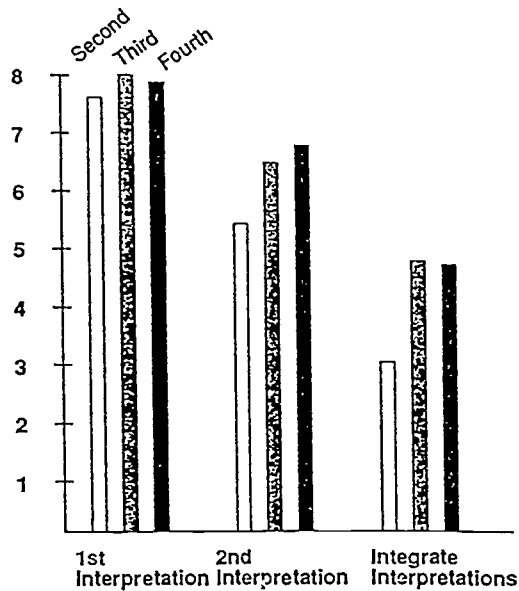


Figure 2

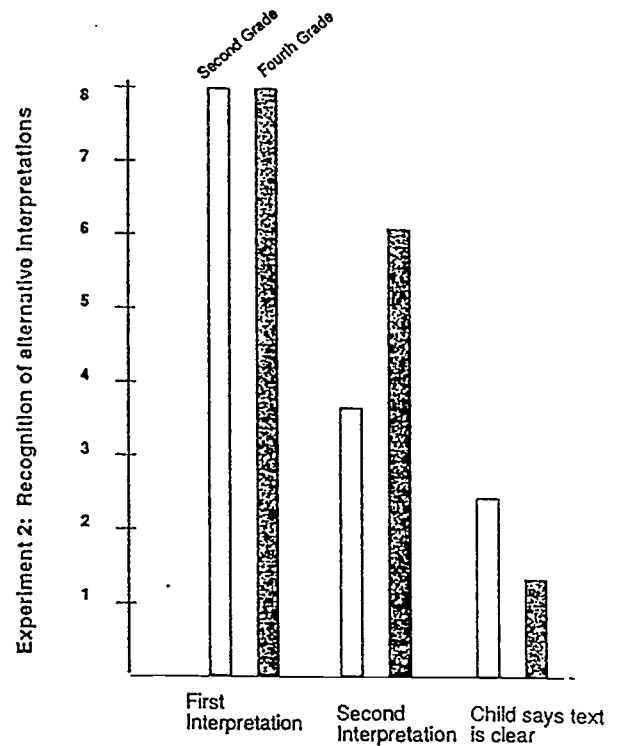


Figure 3

Experiment 3: Explaining protagonist's false belief

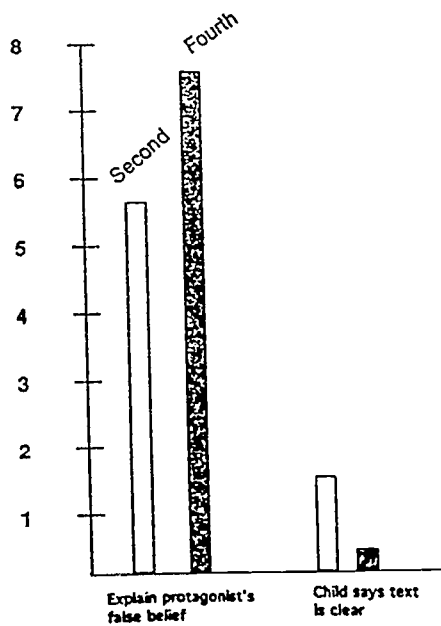


Figure 4

Experiment 4: Appreciation of others' perspectives

